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3 CLAIMS

4 What is Claimed is:

- 5b Q! 1. An outward facing camera system comprising:  
6 a plurality of equatorial cameras distributed  
7 evenly about an origin in a plane; and  
8 a plurality of polar cameras coupled to the  
9 equatorial cameras and tilted above the plane.  
10  
11  
12 2. The outward facing camera system of Claim 1,  
13 wherein the equatorial cameras face radially outwards from  
14 the origin.  
15  
16 3. The outward facing camera system of Claim 1,  
17 wherein the polar cameras face radially outwards from the  
18 origin.  
19  
20 4. The outward facing camera system of Claim 1,  
21 wherein a first equatorial camera is offset approximately 90  
22 degrees from a second equatorial camera.  
23  
24 5. The outward facing camera system of Claim 1,  
25 wherein each equatorial camera is offset from an adjacent  
26 equatorial camera by the same equatorial adjacent angle.  
27  
28 6. The outward facing camera system of Claim 1,  
29 wherein each of the polar cameras is tilted out of the plane  
30 by an equatorial offset angle.

31

1        7. The outward facing camera system of Claim 6 wherein  
2 the equatorial offset angle is in the range of 52 to 76  
3 degrees inclusive.

4

5        8. The outward facing camera system of Claim 1,  
6 wherein the plurality of equatorial cameras outnumber the  
7 first plurality of polar cameras.

8

9        9. The outward facing camera system of Claim 1,  
10 wherein each of the polar cameras is separated by a polar  
11 adjacent angle equal to approximately 120 degrees.

12

13        10. The outward facing camera system of Claim 1,  
14 wherein a vertical field view of a first equatorial camera  
15 is equal the vertical field view of a second equatorial  
16 camera.

17

18        11. The outward facing camera system of Claim 1,  
19 wherein a horizontal field view of a first equatorial camera  
20 is equal the horizontal field view of a second equatorial  
21 camera.

22

23        12. The outward facing camera system of Claim 1,  
24 wherein a vertical field view of a first polar camera is  
25 equal the vertical field view of a second polar camera.

26

27        13. The outward facing camera system of Claim 1,  
28 wherein a horizontal field view of a first polar camera is  
29 equal the horizontal field view of a second polar camera.

30

1       14. The outward facing camera system of Claim 1,  
2 wherein a vertical field of view of a polar camera is equal  
3 to the vertical field of view of a equatorial camera.

4

5       15. The outward facing camera system of Claim 1,  
6 wherein a horizontal field of view of a polar camera is  
7 equal to the horizontal field of view of a equatorial  
8 camera.

9

10       16. The outward facing camera system of Claim 1,  
11 further comprising a polar camera coupled to the equatorial  
12 cameras and tilted below the plane.

13

14       17. The outward facing camera system of Claim 16,  
15 wherein the polar camera is perpendicular to the plane.

16

17       18. The outward facing camera system of Claim 1,  
18 further comprising a second plurality of polar cameras  
19 coupled to the equatorial cameras and tilted below the  
20 plane.

21

22       19. The outward facing camera system of Claim 1,  
23 wherein each of the equatorial cameras and each of the polar  
24 cameras is a video camera.

25

26       20. The outward facing camera system of Claim 1,  
27 wherein a polar camera has a vertical field of view which  
28 overlaps a vertical field of view of an equatorial camera.

29

30       21. The outward facing camera system of Claim 1,  
31 wherein the plurality of polar cameras are tilted by the  
32 same equatorial offset angle.

1  
2        22. The outward facing camera system of Claim 1,  
3 having four equatorial cameras in the plurality of  
4 equatorial cameras and three polar cameras in the first  
5 plurality of polar cameras.

6

7        23. The outward facing camera system of Claim 22,  
8 further comprising a second plurality of three polar cameras  
9 tilted below the plane. ✓

10

11        24. A outward facing camera system comprising:  
12              a first camera;  
13              a second camera coupled to and adjacent to the  
14              first camera, wherein the first camera and the second  
15              camera are offset by a first offset angle; and  
16              a third camera coupled to and adjacent to the  
17              first camera, wherein the first camera and the third  
18              camera are offset by a second offset angle differing  
19              from the first offset angle.

20

21        25. The outward facing camera system of Claim 24,  
22 wherein the first offset angle is approximately 90 degrees.

23

24        26. The outward facing camera system of Claim 26,  
25 wherein second offset angle is in the range of 52 to 76  
26 degrees inclusive.

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28        27. The outward facing camera system of Claim 24,  
29 further comprising a fourth cameras coupled to and adjacent  
30 to the third camera; wherein the third camera and the fourth  
31 camera are offset by a third offset angle.

32

1        28. The outward facing camera system of Claim 27,  
2 wherein the third offset angle is approximately 120 degrees.

3  
4        29. An outward facing camera system comprising:  
5              a plurality of equatorial cameras distributed  
6              evenly about an origin in a plane; and  
7              a plurality of polar cameras in operative relation  
8              to the equatorial cameras and tilted above the plane.

9  
10        30. The outward facing camera system of Claim 29,  
11 wherein the equatorial cameras face radially outwards from  
12 the origin.

13  
14        31. The outward facing camera system of Claim 29,  
15 wherein the polar cameras face radially outwards from the  
16 origin.

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18        32. The outward facing camera system of Claim 29,  
19 further comprising a second plurality of polar cameras in  
20 operative relation to the equatorial cameras and tilted  
21 below the plane.

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